

SYNOPSIS

ATTACHMENT A

VENDORS ARE TO COMPLETE AND RETURN WITH THEIR Market survey information.

A. Scope of Requirement

The Federal Aviation Administration (FAA), Technical Operations, Flight Inspection Services (FIS), Flight Integration Team has a requirement for vendor support/development of Distance Measuring Equipment (DME) which will be used to inspect DME stations in the United States (US). DME has been determined to be the backup navigation solution for the US Global Positioning System satellite-based navigation system.

The GPS constellation has created the capability of navigating point to point anywhere in the world. However, this capability is susceptible to solar flares which disrupt the quality of the GPS signal. It is the FAA's intent to investigate one possible solution which is to perform flight inspection of DME and to create a DME/DME model of the US and to install a portable DME receiver in the two of the FAA's Beechcraft King Air C-90 Flight Inspection Aircraft. This installation is to collect DME autonomously during Flight Edit missions.

This Market Survey is specifically for a vendor Rough Order of Magnitude (ROM) cost needed to develop and install, in two FAA C-90 aircraft, a portable DME/DME flight inspection unit/package with the following specification:

Unit must contain scanning DME receivers capable of receiving a minimum of ten (10) DMEs.

- b. Unit needs to record and save signal strength, range error, signal status, DME Identification, Coordinated Universal Time (UTC), Aircraft Latitude, Aircraft Longitude, ground speed, aircraft altitude, true heading, DME range (computed), true bearing, and magnetic bearing.'

shall be capable of auto selection of DMEs from a database based on aircraft position.

Unit needs to be Wide Area Augmentation System (WAAS) – enabled GPS for positioning.

Unit must be portable.

Unit must operate without an in-flight operator. (Note- due to aircraft size unit weight will be a factor. Please include in all submissions weight and dimensions of unit –if it doesn't fit it won't fly).

Vendor's ROM must also include cost of installation of the vendor's DME-Flight Inspection unit onto the FAA's C-90 aircraft.

BACKGROUND: Traditionally, DME has been treated as a navigational aid that supplements Very High Frequency Omni-Directional Range (VOR) or Instrument Landing Systems (ILS). However, many Area Navigation (RNAV) aircraft systems use information from multiple DMEs to determine the aircraft's Position. Some RNAV systems further incorporate Inertial Positioning inputs. New procedures and routes relying on this capability need evaluation to determine if the DME coverage provides adequate support.

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The FAA is responsible for evaluation DME coverage against a minimum standard (BASELINE) DME/DME RNAV system or DME/DME/Inertial Reference Unit (IRU) RNAV system, as defined in FAA Advisory Circular (AC) 90-100A for each route and procedure. RNAV systems without a GPS interface must meet or exceed this minimum standard. Operators meeting or exceeding the DME/DME or DME/DME/IRU standard can operate on RNAV Q-Routes, Instrument Departure Procedures (DPs), and Standard Terminal Arrival Routes (STARs) where the FAA requires a track keeping accuracy performance of 1.0 Nautical Mile for 95 percent of the total flight time. The FAA will assess if adequate DME coverage is available on the routes and procedures using a combination of a computer tool (assessing if the available DME/DME or DME/DME/IRU performance is adequate) and flight inspection (to validate the reception and performance of individual DME facilities).

This market survey is for the DME receiver that will be used to validate the reception and performance of DME transmitters.

Vendors (in comparing their product/equipment current capabilities) should compare their unit to the DRAFT Requirements Document Section 6.0, 7.0, 8.0 & 9.0. Interface requirements are found under Section 10.0.